UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

A. Schulman, Inc.,	)	**CASE NO. 1:15 CV 1760**
	)	
Plaintiff,	)	**JUDGE PATRICIA A. GAUGHAN**
	)	
vs.	)	
	)	
Polyone Corporation, Inc., *et al.*,	)	**Claim Construction Order**
	)	
Defendants.	)	

INTRODUCTION

This matter is before the Court upon the parties claim construction briefs. Upon review, the Court finds that the "DOI" claim terms are indefinite and, therefore, the patents-in-suit are invalid.

FACTS

Plaintiff, A. Schulman, Inc., filed this lawsuit against defendants, Polyone Corporation and Polyone Designed Structures & Solutions, LLC (collectively "defendant"), alleging infringement of U.S. Patent Nos. 8,007,902 ("'902 Patent") and 8,182,906 ("'906 Patent). Both patents share a common specification.

The patents are directed at "multilayer extruded polyolefin sheets, which can be thermoformed into parts used in automobiles and other vehicles." The '902 Patent describes the background as follows:

> For many polymeric articles of manufacture, optical and durability characteristics are very important. Particularly in the transportation industry, the qualities of distinction of image, gloss, imprint resistance, scratch resistance, mar resistance, and corrosion resistance are highly desirable among other measures of durability and optical quality. Achieving a balance of excellent optical qualities and excellent durability qualities is a difficult endeavor and is complicated by the unpredictability of chemical interactions between various materials used in such compositions.

The patents-in-suit are directed at achieving both durability and "distintiveness of image" (hereafter "DOI")[1]. The parties do not dispute that the automotive industry uses a variety of metrics to assess both durability and DOI. According to plaintiff, two of these testing standards are of particular relevance to this dispute. Both testing standards were created by General Motors.

GM9508P is an engineering standard entitled "Chip Resistance of Coating." This test involves the use of a gravelometer. A gravelometer is a "gravel projecting machine" (JA Ex. 13 at p. 1). The test may be performed by two methods:

> Method A must be used for material validation of exterior body coatings applied to zones A, B, or C as specified in GM4348M. Method B may be used for other zones, qualifications, and production part approvals.

(*Id*.)

> Method A is the contained method where the gravelometer is contained in a constant temperature freezer and Method B is the transfer method where test panels are transferred from a freezer to gravelmeter at room temperature.

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[1] The term "DOI" is contained in the patent claims and the parties agree that DOI refers to "distinctiveness of image."

The test further requires that 473 mL (the equivalent of one pint) of gravel be used in the testing process. GM9508P outlines the temperature and pressure to be applied in conducting the test. The gist of the test involves hurling gravel at a test panel and assessing the effect on the panel. The standard provides visual pictures to be used in "grading" the test. Specifically, GM9508P indicates:

> 6 Evaluation and Rating
>
> Determine the degree of chipping by visual comparison with the photographic standards (Figure 1 through Figure 7) chipping more severe than three should be reported as <three.
>
> Note: chip resistance rating ten is NO chipping of coatings. There is no photographic standard for rating ten.

GM4348M is entitled "painted parts appearance requirements." (JA Ex. 12). That standard contains "Table 1: Appearance Zone Descriptions." The table sets forth Zone A through Zone D. These zones correlate to the degree of visibility of an automotive part to a user. By way of example, Zone A parts are described as "Very Highly Visible," while Zone D parts are described as "Low Visibility" and include parts such as "recessed surfaces" or "clearly indented surfaces." The standard identifies 37 different "appearance attributes" and approves four "inspection devices" for use in assessing apperance: "DOI: ATI Industries-Model 1864 from ADC..., BYK-Gardner-Model GB 4816..., Hunter Dor-I-Gon, or Glowbox." (JA Ex. 12 at p 2).

Plaintiff filed this lawsuit alleging that products manufactured by defendant infringe the patents-in-suit. Defendant sought reexamination before the United States Patent and Trademark Office ("USPTO"). The Court stayed this action pending reexamination. The USPTO ultimately determined that the patents-in-suit are patentable over prior art. The Court lifted the

stay and the parties have now presented the Court with opposing claim construction briefs.

ANALYSIS

The following six terms are in dispute:

1) "passes a gravelometer impact test per the GM9580P standard, with a 10 [pint] load at a -30° C. temperature, and at an angle of 30 degrees;"

2) "a DOI of 70 or greater" or "a DOI of 85 or greater;"

3) "random microstructure;"

4) "clear polyolefin layer;" and

5) "colored polyolefin layer."

"[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." *Markman v. Westview Instruments*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). "To ascertain the meaning of claims, [the court considers] three sources: The claims, the specification, and the prosecution history." *Markman*, 52 F.3d at 979. The words of a claim are generally given their ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). The ordinary and customary meaning is to be determined from the perspective of one of ordinary skill in the art at the time of the invention. *Id.* at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

Accordingly, the court first looks to the claim itself, read in view of the specification. *Id.* at 1315 (The specification "is always highly relevant to the claim construction analysis. Usually,

it is dispositive; it is the single best guide to the meaning of a disputed term."). However, while the court may look to the written description to define a term already in a claim limitation, the court may not read a limitation from the written description into a claim. *Id.* at 1323.

As stated above, the prosecution history should also be considered by the court when conducting claim construction. *Phillips*, 415 F.3d at 1317. The "prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*; *see also Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) ("The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution."). Claims may not be construed one way in order to obtain their allowance and in a different way against accused infringers. *Chimie*, 402 F.3d at 1384. Moreover, the prosecution history of a parent application applies with equal force to a later patent that contains the same claim limitation. *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 980 (Fed. Cir. 1999); *see also Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349 (Fed. Cir. 2004) ("the prosecution history of one patent is relevant to an understanding of the scope of a common term in a second patent stemming from the same parent application"). "The relevant inquiry is whether a competitor would reasonably believe that the applicant had surrendered the relevant subject matter." *Cybor Corp. v. Fas Techs., Inc.*, 138 F.3d 1448, 1457 (Fed. Cir. 1998).

All other evidence is considered extrinsic and may be relied upon by the court in its discretion. *Markman*, 52 F.3d at 980; *Phillips*, 415 F.3d at 1317. However, extrinsic evidence is less reliable than intrinsic evidence. *Phillips*, 415 F.3d at 1318. Thus, the court should restrict

its reliance on extrinsic evidence to educating itself regarding the field of invention or to determining what a person of ordinary skill in the art ("POSA") would have understood the claim terms to mean. *Id.* at 1319; *see also Markman*, 52 F.3d at 986 ("It is not ambiguity in the document that creates the need for extrinsic evidence but rather unfamiliarity of the court with the terminology of the art to which the patent is addressed."). Extrinsic evidence may not be used for the purpose of varying or contradicting the terms of the claims. *Markman*, 52 F.3d at 981.

Because the Court finds that the DOI limitation is indefinite, the Court will address that term first.

"a DOI of 70 or greater" or "a DOI of 85 or greater"

Plaintiff asks that the Court construe this term to mean "distinctiveness of image, a measure of how clearly an object is reflected by the surface." Plaintiff argues in its proposed construction that a "POSA would understand, given the patent specification, that DOI is determined by measurement using any of the approved DOI measurement instruments listed in GM4348M section 3.1.5." In other words, although the claim itself does not refer to the GM4348M standard for determining DOI, other relevant information would lead a POSA to use one of the testing mechanisms identified in that standard to test DOI.

In response, defendant argues that this claim term is indefinite under 35 U.S.C. § 112. According to defendant, the DOI limitation raises questions about which testing protocol to use. Defendant claims that there are multiple different methods and devices for measuring DOI, but the patents are silent as to which method or test to use. Defendant further argues that the tests produce differing results making it impossible for the public to determine the limits of the claim.

Defendant notes that the patents-in-suit make no reference to any standard, let alone the GM4348M standard that plaintiff asks the Court to read into the claim. Defendant also argues that even if the Court were to accept plaintiff's argument that the GM4348M standard applies for determining DOI, that standard includes four different acceptable testing mechanisms, which renders the claim indefinite as those various tests can also produce different results. In addition, defendant notes that in relation to an application filed for a child patent, the patent examiner rejected this claim on indefiniteness grounds:

> [Certain patent claims] recite that the multilayer polymeric sheet or product has a 'DOI of 70 or greater'...however given that DOI, like gloss, is a relative property based upon the method of measuring the DOI, the recitation or DOI without reciting the conditions under which the property is measured renders the claims indefinite.

In addition, defendant points out that the European Patent Office recently revoked the European patent directed at the same invention, in part because the DOI limitation fails to disclose which of many available methods to use in assessing whether a DOI of 70 or greater is achieved. The European patent and the patents-in-suit both share the identical DOI claim limitation.

Upon review, the Court finds that the DOI limitation is indefinite rendering both patents-in-suit invalid. In *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120 (2014), the Court clarified the standard to be applied in assessing indefiniteness. Prior to *Nautilus*, a claim passed § 112's threshold provided the claim was "amenable to construction" and not "insolubly ambiguous" as construed. There is "no serious question that *Nautilus* changed the law of indefiniteness. This was indeed the very purpose of the *Nautilus* decision." *Dow Chemical Co. v. Nova Chemicals Corp. (Canada)*, 803 F.3d 620 (Fed. Cir. 2015). The Supreme Court first noted that § 112 requires a "delicate balance." On the one hand, "the definiteness requirement

must take into account the inherent limitations of language. Some modicum of uncertainty, the Court has recognized, is the price of ensuring the appropriate incentives for innovation." *Nautilus*, 134 S.Ct. at 2128 (internal citations and quotations omitted).

> At the same time, a patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them. Otherwise there would be a zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims. And absent a meaningful definiteness check, we are told, patent applicants face powerful incentives to inject ambiguity into their claims. Eliminating temptation is in order and the patent drafter is in the best position to resolve the ambiguity in patent claims.

Nautilus, 134 S.Ct. at 2129.

To reconcile these competing interests, the Court held that § 112 ¶ 2 requires "that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the inventions with reasonable certainty. The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable." *Id.*

Nautilus, however, did not alter the burden of proof with respect to indefiniteness arguments or other aspects of the analysis. Rather, the burden of proof remains with the party asserting indefiniteness to show by clear and convincing evidence that the claim fails § 112's requirements as outlined in *Nautilus*. *See, Cox Communications, Inc. v. Sprint Communications Co.*, 838 F.3d 1224, 1228 (Fed. Cir. 2016)("Any fact critical to a holding on indefiniteness ... must be proven by the challenger by clear and convincing evidence."). Moreover, definiteness must be "evaluated from the perspective of someone skilled in the relevant art...from the viewpoint of a person skilled in the art at the time the patent was filed." *Nautilus*, 134 S.Ct. at 2128. In addition, in "assessing definiteness, claims are to be read in light of the patent's

specification and prosecution history." *Id.*

Here, the parties do not dispute that multiple methods exist for evaluation of DOI. (ECF 61 at Ex. 17 ¶ 99). Yet, the patent does not expressly disclose which of those methods to use in assessing whether the DOI is greater than 70 (or 85). Plaintiff argues that a POSA would have selected the GM4348M standard for determining DOI. According to plaintiff, the gravelometer standard expressed in the patent claim, *i.e.*, GM9508P, contains an explicit reference to GM4348M. Therefore, because a POSA was required to read the GM DOI testing standard in order to apply the gravelometer testing standard, a POSA would have chosen the GM DOI testing standard in assessing DOI.

The Court disagrees. The gravelometer standard, *i.e.*, GM9508P, outlines two acceptable testing methods. As set forth in that standard, "Method A must be used for material validation of exterior body coatings applied to zones A, B, or C *as specified in GM4348M*." (JA Ex. 13)(emphasis added). GM4348M contains a chart identifying which automotive parts fall within a particular zone. Therefore, in order to properly conduct the gravelometer test, reference to GM4348M is necessary only to determine which "zone" an automobile part is considered to fall under. No further reference or reliance on GM4348M is required by the patent as that standard does not appear in the claims or specification. Here, the patentee inserted a specific testing procedure into the patent claims to be used in the gravelometer testing process, but did not do so with respect to measuring DOI. There is simply no basis on which to conclude that a POSA would apply GM4348M–as opposed to the many other alternative testing procedures available–in determining DOI. This is bolstered by the fact that, as noted in the specification, the invention is directed at the improvement of not only automotive parts, but also parts such as

"cell-phone covers and computer housings." (JA Ex. 1 at Col. 13 ln. 23-24).[2]

Nor does the fact that the other GM standards are referred to in Table 2 teach that GM4348M must apply to measure DOI. In addition to GM standards, two standards implemented by other automobile manufacturers are identified on that same table. For example, the standard identified with respect to the "imprint resistence" test is "Honda #16" and the standard used for "Crock Mar" is a Chrysler standard. Because other standards are in fact identified in the specification, it is not proper to read the claim as requiring the GM standard when assessing DOI. Moreover, as defendant points out, the fact that the patentee expressly referenced a number of GM standards in the patent–but *not* GM4348M– counsels against reading the patent as requiring application of that standard to measure DOI.

In opposition to defendant's indefiniteness argument, plaintiff also points out that the patent office did not reject this claim on indefiniteness grounds. But, the Court agrees with defendant that the argument holds little value in that test for indefiniteness became stricter after *Nautlius*. Because the patent examiner applied a less stringent test in determining definiteness, the fact that the examiner did not reject the claim is less significant. Regardless, it is the function

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[2] Plaintiff's expert testified that a "POSA would look to GM4348M to determine the instruments to use to measure DOI...." This statement, however, is a bare conclusion and the expert does not explain *why* a POSA would pick that standard to apply in measuring DOI. Nor does this statement preclude the Court from finding the limitation indefinite. *See, Dow Chemical Co. v. Nova Chemical Corp.*, 803 F.3d 620, 635 (Fed. Cir. 2015)(claims indefinite under *Nautilus* even though patentee's expert testified that one skilled in the art could determine which method was the most appropriate).

of this Court to ultimately determine whether a claim survives Section 112 analysis.[3] The Court further finds that the "ability" of the USPTO during re-examination proceedings to apply the DOI limitation does not foreclose a finding of indefiniteness. The USPTO cannot address challenges as to the indefiniteness of existing claims during a reexamination proceeding. *See, Garrido*, 646 *Fed.Appx*. 942, 944 (Fed. Cir. April 26, 2016)(only new claims can be rejected for failing to comply with § 112–"rejections of original patent claims are limited to prior art grounds during reexamination.").[4]

As set forth above, the patents do not disclose which of a number of available methods should be used to measure DOI. Defendant points to the Standard Test Methods for Instrumental Measurement of Distinctness-of-Image Gloss of Coating Surfaces, which is ASTM[5] D 5767–95. (Doc. 61-7) That publication outlines three testing methods for measuring DOI. Those methods include:

> 1.2.1 Test Method A—Gloss reflectance factor measurements are made on the specimen at the specular viewing angle and at an angle slightly off the specular viewing angle. The values obtained are combined to provide a DOI value. Very narrow source and receptor aperture angles are used in the measurements.
>
> 1.2.2 Test Method B—The light through a small slit is projected on the specimen surface and its reflected image intensity is measured through a sliding combed shutter to provide a value of image clarity.

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[3] Moreover, although not relying on the determination, the Court notes that the patent examiner examining a child patent application with the same DOI limitation, has recently rejected the claim as indefinite in an nonfinal office action.

[4] The Court agrees with defendant that the self-serving statements made by the patentee during the reexamination proceedings are of little to no value. Those statements were made long after the original filing date and only after this lawsuit was filed.

[5] ASTM stands for "American Society for Testing and Materials."

> 1.2.3 Test Method C—The light through a pattern is projected on the specimen surface and its reflected image intensity is measured directly to provide a value of image clarity.

(Id.)

Each of the methods utilizes different apparatuses and is based on differing principles. (Compare, *e.g.*, Doc. 61-7 at 14.1 and 14.2, with Doc. 61-7 at 21.1. and 21.2). Notably, the standard itself provides that "[t]he scale values obtained from the alternative methods cited *do not agree*." (Emphasis added). Defendant's expert further outlines other testing methods that exist. (Gosselin Dec. at ¶¶10-15). With regard to these various methods and standards, the expert avers as follows:

> Use of these different techniques, devices, methods or standards can affect test results, including the DOI value assigned to a given test sample. This is important because actual scale values obtained from different methods often will not agree, but rather trend similarly to each other depending upon the technique utilized. In many cases the technique used is industry specific or industry preferred. *In other words, a 70 rating with one method will not necessarily be a 70 rating when using an alternative method*. Each test is scaled upon independent criteria, different calibration curves or different standardized samples, utilizing different physical principles to arrive at a DOI value.

(Gosselin Dec. at ¶ 9).[6]

Plaintiff argues that defendant's indefiniteness argument fails because the four test

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[6] Plaintiff objects to Dr. Gosselin on the grounds that she does not define a person of ordinary skill in the art. According to plaintiff, her testimony "lacks an anchor to relevance." The Court disagrees. Based on a reading of the affidavit provided, she is qualified to offer testimony regarding the general nature of DOI tests and the results thereof. This information is relevant background information necessary to provide the Court with an understanding of the technology at issue. The Court does, however, agree with plaintiff that references Dr. Gosselin makes to standards that were not in effect at the time of the invention are not relevant to the Court's analysis and will not be considered.

methods identified in GM4348M were approved by General Motors. Thus, according to plaintiff, the methods cannot produce significantly different results or else General Motors would not allow the various methods to be used in testing its products. In addition, plaintiff relies on the testimony of Mr. Legget, who avers that the results of DOI measurements are "surprisingly close. The instrumental readings will give you one integer ratings. It will be 81. Ours will be 80, 90, 95, intervals of 5."

Upon review, however, the Court finds that this testimony does not assist plaintiff. According to Mr. Legget, some testing methods give results in integers, while others provide results in intervals of five. Thus, an infringement analysis would differ depending on which test is used. There are a myriad of ways in which DOI can be measured and assessed, some of which would lead to a finding of infringement, while others would not. Take for example, a situation in which an instrument test is used resulting in a measurement of 69. In that event, the allegedly infringing product would in fact infringe because it has a DOI of less than 70. Applying a different test, however, may result in non-infringement of that same product as a "five interval" test method may result in a DOI of 70. This is consistent with both the testimony of Dr. Gosselin in which she avers that "70 rating with one method will not necessarily be a 70 rating when using an alternative method," as well as the ASTM standard, which provides that "[t]he scale values obtained from the alternative methods cited do not agree." Because the choice of method directly impacts whether a product infringes, the Court finds that the failure of the patentee to disclose which of many testing methods and standards to apply renders the DOI claim limitation indefinite. The purpose of the definiteness test is to "apprise the public of what is still open to them." *Nautilus*, 134 S.Ct. at 2129 (citation and internal quotation omitted). Here, however, by

failing to recite the manner in which DOI is to be measured, the claim creates a risk "of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims." *Id*.

Plaintiff argues that because the results obtained by the various DOI measurement methods are not "significantly" different, the Court cannot find that the claim is indefinite. Plaintiff relies on *Takeda v. Pharmaceutical Co., Ltd. v. Zydus Pharmaceuticals USA, Inc.*, 743 F.3d 1359 (Fed. Cir. 2014). In *Takeda*, the Federal Circuit rejected an indefiniteness challenge to a patent that did not specify which method of measurement should be used to determine "average particle diameter." The court rejected the challenge, noting that any difference in outcome from the various measuring options was insignificant and that the methods at issue were accurate. The court held that "any theoretical minor differences between the two techniques are therefore insufficient to render the patent invalid." *Id*. at 1367.

The Court finds that plaintiff's reliance on *Takeda* is tenuous because it was decided pre-*Natulius*. In another testing case decided post-*Natulius*, the Federal Circuit addressed whether a patent satisfied § 112's definiteness requirement where the patent did not identify the manner in which "slope of strain hardening" should be measured. *Dow Chemical Co. v. Nova Chemicals Corp.*, 803 F.3d 620 (Fed. Cir. 2015). The court found the claim indefinite:

> There is no question that each of these four methods may produce different results, *i.e.*, a different slope.... Because the methods do not always produce the same results, the method chosen for calculating the slope of strain hardening could affect whether or not a given product infringes the claims.
>
> The question is whether the existence of multiple methods leading to different results without guidance from the patent or the prosecution history as to which method should be used renders the claims indefinite. Before *Nautlius*, a claim was not indefinite if someone skilled in the art could arrive at a method and practice that method. In our previous opinion [interpreting this claim], we held that the claims were not indefinite...

> Under *Natulius*, this is no longer sufficient. A patent is invalid for indefiniteness if its claims, read in light of the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. Here, the required guidance is not provided by the claims, specification, or prosecution history.

Id. at 634. *See also, Butamax Advanced Biofuels, LLC v. Gevo, Inc.*, 117 F.Supp.3d 632, 641-42 (D. Del. 2015).

Here, multiple methods and standards exist to measure DOI, and those methods and standards can yield different results, which affects whether a product infringes. Because the claims, specification, and prosecution history do not convey to one skilled in the art with reasonable certainty the scope of the claimed invention, the patents-in-suit are invalid. As such, the Court need not construe any further claims as such constructions would amount to advisory opinions.

CONCLUSION

For the foregoing reasons, the DOI terms fail Section 112's definiteness requirement and, as such, the patents-in-suit are invalid. Both parties concur that a ruling in defendant's favor that the DOI terms are indefinite terminates this case in defendant's favor at the trial court level. (Doc. 70 at C.).

IT IS SO ORDERED.

/s/ Patricia A. Gaughan
PATRICIA A. GAUGHAN
United States District Judge

Dated: 4/27/17